

Application No.: 09/997947

Case No.: 56847US002

Remarks

Claims 1 to 16 and 29 are pending. Claims 17 through 28 have been withdrawn from consideration and have been canceled, without prejudice or disclaimer. Claims 1-5, 7, 9 and 12-16 have been amended and new claim 29 has been added.

§ 112 Rejections

Claims 1-11, 15, and 16 stand rejected under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regards as the invention. The Office Action asserts that in claim 1, the phrase "the resulting tube section" lacks antecedent basis, and that in claim 15, the phrases "the resulting birdcage structure" and "the annular spaces" lack proper antecedent basis.

Applicants' Response:

It is submitted that claims 1 and 15 have been amended to overcome these § 112 rejections. Accordingly, these rejections should be withdrawn.

§ 103 Rejections

Claims 1-3 and 5-14 stand rejected under 35 USC § 103(a) as being unpatentable over EP0707695B1 (EP'695) in view of Ni et al. (U.S. Patent No. 5,720,092).

Claim 4 stands rejected under 35 U.S.C. 103(a) as being unpatentable over EP'695 in view of Ni et al. (US'092), and further in view of WO00/22024.

The Office Action acknowledges that EP'695 does not disclose all the elements of the invention recited in claims 1-3 and 5-14, including: 1) the step of hydroforming the tube section into a desired shape; and 2) each of the male and female tube sections comprising one of galvanized steel and aluminum.

Regarding claim 1, the Action states that it would have been obvious to have included the step of hydroforming the tube sections, in a similar manner as taught in Ni et al., in order to form the tube sections into various and desirable shapes/sizes. Regarding claim 2, the Action states that it would have been obvious to have made the tube sections of EP'695 into one of steel and

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aluminum, since it is well known to use steel for its soundness and to use aluminum for its lightness. The Office Action provides no description supporting the rejection of claim 12.

Claims 15 and 16 also stand rejected under 35 U.S.C. 103(a) as being unpatentable over Ni et al. (US'092) in view of EP'695.

The Office Action also acknowledges that Ni et al. (US'092) does not disclose all of the elements of the invention recited in claims 15 and 16, including: 1) joining the frame components together by adhesive, and 2) that the adhesive is being injected through an inlet hole and/or exit hole in the frame components.

Regarding claims 15 and 16, the Action states that it would have been obvious to have joined the frame components of Ni et al. by using glue/adhesive and to inject the glue/adhesive through an inlet hole and/or exit hole in the frame components, in a similar manner as taught in EP'695, in order to reduce the overall manufacturing cost since using glue/adhesive is cheaper than using a welder to provide the bond between the frame components.

Applicants' Response:

Ni et al. expressly teaches the need for hydroforming only when their disclosed steel framework is welded together. In particular, Ni et al. teach the use of hydroforming to avoid the problem of trying to hold a welded frame to desired dimensional tolerances (see Col. 2, lines 5, 43-62 and, in particular, lines 57-62). Ni et al. provide no teaching of any need to use hydroforming when a frame, or even a single joint, is adhesively bonded together.

As noted in the Office Action, EP'695 does not mention any forming operation, let alone a hydroforming operation. In addition, EP'695 teaches to use a gluing method to interconnect tubes that "are made from a material that does not lend itself to welding" (see Column 1, lines 21-24). Thus, EP'695 actually teaches away from using an adhesive/gluing method to interconnect a weldable (e.g., a steel, aluminum, etc.) tubular system, such as that disclosed in Ni et al.

Therefore, it is respectfully submitted that there is no disclosure, teaching or suggestion in the cited references EP'695 and Ni et al., or in any of the art of record, either individually or

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collectively, that would motivate the person of ordinary skill to combine the disclosures of EP'695 and Ni et al. so as to produce the present claimed method. In fact, as noted above, these references actually provide reasons not to so combine their respective teachings. Without such motivation, the Patent Office has failed to meet its burden of establishing a prima facie case rendering the claimed invention obvious. Accordingly, it is submitted that these rejections of claims 1-16 under 35 USC § 103(a) have been overcome and should be withdrawn.

Additional Claim Amendments

In addition to the amendments made in response to the §112 rejections, claims 2-5, 7, 9 and 12-16 were also amended unilaterally by the undersigned independent of any of the Office Action rejections. Therefore, none of these amendments made to the claims will support a finding that a second Office Action, finally rejecting the claims, was necessitated by any of these claim amendments.

Additional Grounds For Patentability Other Than That Argued

It is also submitted that there are other limitations recited in the claims, in addition to those discussed above, which further distinguish the claimed invention patentably from the cited art and the other art of record. These additional distinguishing limitations will not be discussed because there is no need to do so at this time.

CONCLUSION


In view of the above, it is submitted that the §103 rejections should be withdrawn. Reconsideration of the application is, therefore, requested, and the allowance of claims 1-16, as amended, and new claim 29 at an early date is solicited.

Respectfully submitted,

Date

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